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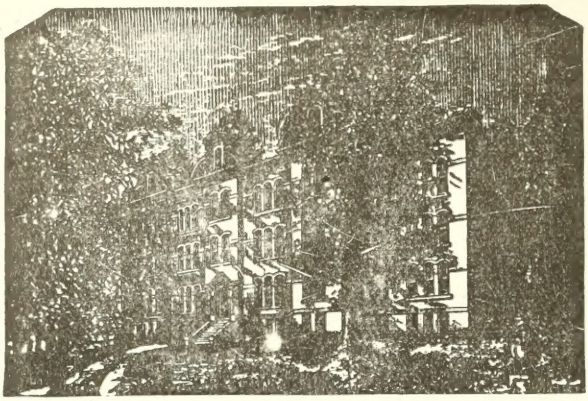

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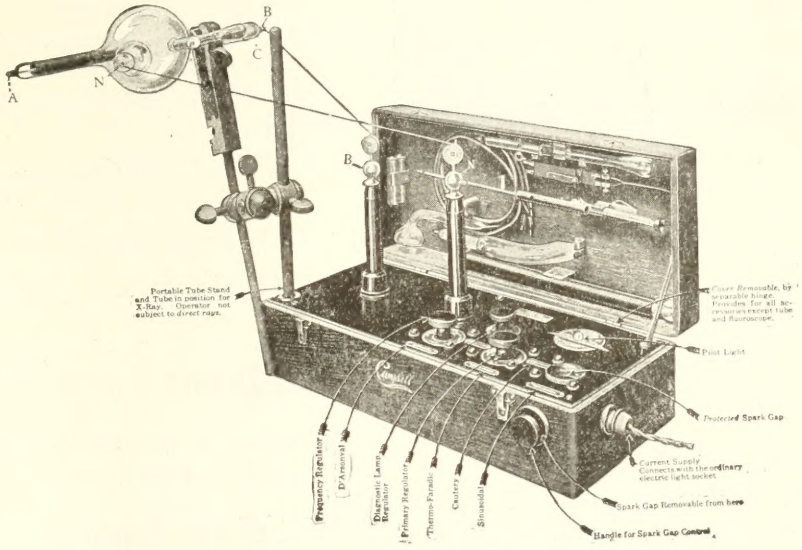

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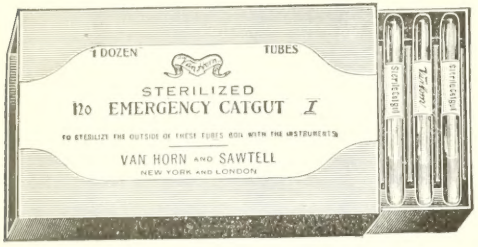

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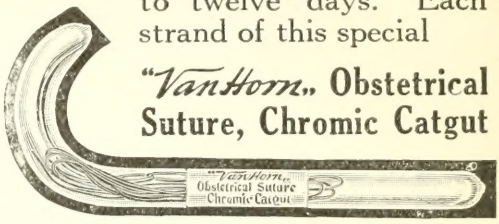

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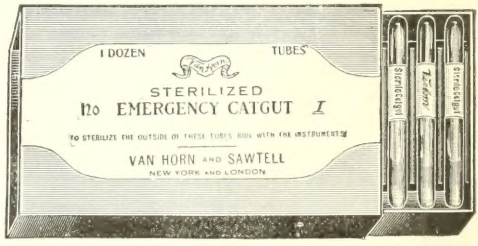

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—OF—
MEDICINE AND SURGERY

CHARLES S. BRIGGS, A.M., M.D., Editor.
W. T. BRIGGS, B.A., M.D., Associate Editor.

VOL. CIX. OCTOBER, 1915. No. 10

Original Communications

SOME ANOMALOUS AND MORBID ANATOMICAL FINDINGS.*

BY W. T. BRIGGS, M.D., NASHVILLE, TENN.

I thought it might be interesting to call your attention to some anomalous and morbid anatomical conditions noted in the dissecting room at Vanderbilt during the last four years. At the outset I wish to apologize for the lack of scientific value of the observations. To be valuable each anomaly noted should show the percentage of cases in which it occurred. In this respect the value of the paper is nil. This of course is largely my own fault but also to a certain extent the fault of the system during my first two years in the dissecting room. Under this system the demonstrator controlled only one table and so the opportunity for discovering variations was rather limited. Under the new system which has existed during the last two years, each demonstrator controls one part of the body and many subjects, so the opportunity for observing anomalies is much better. Since however it never occurred to me until after Xmas of last year—1914—that I would discover enough anomalies to be of even passing interest, no attempt can

*Read before Nashville Symposium Society, October 1, 1915.

be made to give the percentage of occurrence of the various anomalies found without running the risk of giving inaccurate percentages and if any percentages at all are mentioned in this paper they will be accurate.

Some of those anomalies are given entirely from memory, others are given from data collected by other demonstrators but most are given from actual observations and notes made since January 1st, 1915.

No attempt will be made to go into a very scientific discussion of these various anomalies but stress will laid on the practical side since I am sure this kind of treatment of the subject in hand will be more interesting.

Since the anomalies present in the vascular system were the most common I will commence with that part first.

Heart—In only one of the hearts examined was there an opening between the right and left auricle. Since 12 hearts were examined for this defect and a slit like opening found in only one, the percentage is rather low since a slit like opening is said to be present in over 30 per cent of cases. This opening is not to be confounded with a patulous foramen ovale which usually, though not always, leads to circulatory disturbances and death. The small opening so often present is anterior to the annulus ovale and covered by that structure in such a way that blood in either of the auricles will close the opening entirely. It is due to incomplete fusion of the anterior and posterior sections of the embryonic interauricular septum.

Right Subclavian Artery—In one case this artery arose from the posterior aspect of the commencement of the descending thoracic aorta, passing thence to the right behind the esophagus and trachea.

This anomaly is due to a developmental error; the distal portion of the embryonic right aortic arch persisting while the proximal part undergoes atrophy, whereas normally the distal portion of the right aortic arch atrophies while the proximal part remains as the innominate. Of course in this case there was no innominate. According to Piersol such a variation is one of the most common of the variations to which the aorta and pulmonary ar-

teries are subject and should always be borne in mind by internist and surgeon alike. By the internists, because the physical signs depending on intrathoracic pathology might be modified by such an anomaly; by surgeons, because in such cases the inferior laryngeal nerve does not pass around the subclavian artery and so is not, strictly speaking, recurrent. In an operation on the thyroid gland, for instance, this nerve might cause confusion if seen, or might be injured before located, since in this case it ran almost parallel to the inferior thyroid artery instead of meeting it at an angle at the lower border of the thyroid cartilage.

Renal Arteries—In several cases there were anomalous renal arteries. In fact anomalous renal arteries, as well as accessory arteries, have been found oftener perhaps than any other variation. Piersol writes: "Not infrequently the division of the renal arteries into their terminal branches takes place early, sometimes immediately at their origin, several stems arising directly from the aorta and passing outward to the kidney. Accessory renal branches may arise from the abdominal aorta or from the middle sacral, the common iliac, the internal iliac, or the inferior mesenteric, and occasionally the renal artery proper may be lacking and its place taken by a vessel from one or other of these origins. The accessory arteries frequently enter the substance of the kidney elsewhere than at the hilum. They occasionally give off branches which are either accessory to or replace vessels normally arising elsewhere. Thus they have been observed to give rise to the inf. phrenics, the right branch of the hepatic, the spermatics, branches to the pancreas and colon, and one or more of the lumbar arteries."

Some of these variations are hard even for embryologists to explain. These variations are so frequent that they should always be borne in mind when doing a nephrectomy, since in those cases in which the kidney can not be delivered on the back—and such cases are not rarities—it would be easy to miss one of the branches, or an accessory artery, when ligating the pedicle. Theoretically the ureter and each vessel should be tied separately, but practically such a procedure is not always feasible. Furthermore, anomalous or accessory arteries, especially those that enter the anterior or posterior surface, or either pole instead of the pelvis,

could easily be mistaken for a fibrous band and ruptured while delivering the organ. Since internal hemorrhage is relatively often the cause of death following nephrectomy, there can be but little doubt that anomalous arteries are missed when ligating the pedicle and occasionally torn when delivering the kidney. The smaller the artery torn within certain limits the greater danger to the patient, since a small hemorrhage may be easily overlooked, especially if the blood pressure has fallen during the operation.

Obturator artery—Examination of eighty-one subjects showed that forty obturator arteries, sometimes on only one side, aftener on both sides, had anomalous origins from either the external iliac or the deep epigastric, oftener from the latter. In no case, however, did the anomalous obturator artery pursue the course of the pubic branch of the deep epigastric. It was the search for this anomalous pubic branch of the epigastric that lead me to examine the obturator arteries. There is normally a pubic branch of the deep epigastric which anastomoses with the obturator, but it is very small. Sometimes it becomes large and then takes the place of the obturator. It is in cases where this occurs that following herniotomy for strangulated femoral hernia the patient may bleed to death, since in such cases the femoral ring, except the posterior bony wall, is surrounded by arteries of relatively large size.

Occipital and Posterior Auricular Arteries—In one case these two arteries arose by a common stem from the posterior aspect of the internal carotid at approximately the same level at which the occipital usually arises from the external carotid. This anomaly was present on only one side and in only one case. Such a variation might lead to a serious mistake, since in ligating the external carotid, one of our best guides to this vessel is the occipital branch, with the hyypoglossal nerve passing over it. Should the surgeon in a case like this rely on the presence of a branch as a distinguishing mark of the external carotid it might lead to serious consequences; not only because hemorrhage from branches of the external carotid would not be checked were the ligature applied to prevent or control hemorrhage, but also because ligation of the internal carotid artery is a much more serious operation, the mor-

tality being at least forty per cent greater than that following ligature of the external carotid.

Anomalous Branch of the Superior Mesenteric Artery—This variation was present in two cases out of eighty-one subjects. The right hepatic artery was very small. However, there was present a large branch which arose from the sup. mesenteric immediately after the origin of that vessel from the aorta. This branch passed upward and to the right, anterior to the head of the pancreas and behind the first part of the duodenum to a point in the free border of the gastrohepatic ligament where it met the common bile duct. From this point it accompanied the common bile duct lying to its right side. In size it was as large as the common bile duct which in one case was somewhat enlarged, probably owing to the presence of stones in the gall bladder and a chronic inflammation of the duct. In writing of the variations of the sup. mesenteric artery, Piersol says, "Branches may be sent to any of the neighboring organs, such as the liver, stomach and spleen, and the artery may give rise to the hepatic or to the gastroduodenal or even the gastric or renal artery."

Such an anomalous artery as the one above described might lead to serious temporary hemorrhage in a cholecystectomy, especially if the duct were divided before clamps or ligatures were applied, as is sometimes done. Since the artery was right up against the duct, a large stone in that structure might, by pressure, lead to the formation of an aneurysm or even to rupture of the artery, profuse hemorrhage and death. In a cholecystectomy the artery might be tied and thereby lead to serious circulatory disturbances in the right lobe of the liver.

In regard to the other large arteries, variations were occasionally present, but these variations were only of interest from a developmental standpoint; however, the so-called high bifurcation of the brachial should be mentioned specifically, since such an anomolous condition should always be borne in mind when ligating the brachial. Next to anomalous renal arteries this high bifurcation of the brachial has been observed oftener than any other vascular anomaly. The great frequency of this anomaly is explained by the fact that this is the early embryonic arrangement of the blood supply of the upper limb.

Veins—The venous anomalies were of course more frequent than the arterial, but less important from a practical standpoint. In one case the right spermatic vein emptied into the right renal instead of opening as usual into the inferior vena cava. Such an anomaly would predispose to a right-sided varicocele. The latter condition is present on the right side in about 4 per cent of cases.

Stomach and Intestines—In one case the cardiac orifice, the fundus and a portion of the body of the stomach were situated, so far as bony landmarks could serve as guides, in the thoracic cavity, but since those portion of the stomach were on the abdominal side of the diaphragm, the stomach was still intraabdominal. This anomaly was first thought to be a diverticulm or tumor of the esophagus but further dissection showed that it consisted of the above mentioned portions of the stomach. The pyloric portion and a part of the body of the stomach were contracted and the muscular coat very much hypertrophied, the pylorus itself and the duodenum occupied the usual position. This partial hernia of the stomach into the thorax was probably the result of a fall from a height since the limbs of the cadaver had been broken in many places.

Intussusception—In two cases this pathological condition was found. In both cases the intussusceptum was greatly narrowed, but there was no necrosis and no visible signs of circulatory disturbance nor was there any apparent cause for the condition such as tumor, constriction or foreign body. These two cases were interesting because of the absence of apparent cause, rather high location and the fact that they were both found in adults.

Meckel's Diverticulum—Though this condition is present in two per cent of all cases I have never seen the condition in the dissecting room.

Jackson's Veil—I have looked carefully for this condition but so far have never found anything like it except the bands and adhesions around the appendix.

Internal Hernia—In one of the cases there was found an internal hernia, the small intestines apparently having herniated through the mesentery so that on opening the abdomen the small intestine was found enclosed in a second peritoneal sac. In a

laparotomy such as double peritoneum might lead to confusion and trouble before the condition was recognized.

The Appendix—The position of this organ, as might be expected, was very variable. In one case the colon had not completely rotated as a result of which the cecum was in close relation to the right kidney and the tip of the appendix had almost entered the foramen of Winslow. Disease of this appendix might have simulated gall bladder, renal, gastric, duodenal or pancreatic lesions. The resemblance to renal disease might be increased were the appendicitis accompanied by a hematuria, as is sometimes the case even when the diseased appendix is not in close relation to the ureter or kidney. In practically all the subjects dissected during the past four years, a careful dissection of the appendicular artery has been made. Although the appendix is classed as a vestigial organ, the arterial supply has always seemed relatively large for the organ. However the blood and lymph vessels pass posterior to the ileum or cecum and one can readily see how a bolus of undigested food or a foreign body trying to pass the ileocecal valve, might by pressure produce a blood and lymph stasis in the appendix and in that way allow the ever present bacteria a chance to proliferate and produce inflammation. Contracting adhesions from a previous attack of appendicitis might cause an acute attack by this same mechanism. In looking over the literature on the etiology of appendicitis, this arrangement of the arterial supply has not been sufficiently stressed except by Piersol. Yet the fact that females, whose appendices often have a blood supply from the ovarian artery, as well as the usual blood supply, suffer less often from appendicitis than males, should impress on us that blood and lymph stasis is often an etiological factor which might be closely connected with chronic gastric and intestinal indigestion. In 1898 Edebohls stated in a paper, that in 60 per cent of his cases of appendicitis—most of them of the chronic type—wandering kidney was present, and he thought the disease was due to a chronic vascular stasis caused by the right kidney pressing on the head of the pancreas and thus compressing the superior mesenteric artery. In proof of this theory he referred to twelve cases entirely cured by nephropexy. If pressure so far

removed from the appendix will produce disease of that organ through blood stasis, then it seems reasonable to believe the nearer pressure will do the same. Other anatomical causes of appendicitis are (1) Small valve of Gerlach which will quickly close if there is any edema or distention. (2) Short mesentery causing kinks in the appendix, the kinks leading to retention, distention and blood stasis; these kinks not only are a cause of appendicitis, but careful observers state that gangrenous appendicitis is commoner when kinks are present. (3) Uphill drainage. (4) Rich development of lymphoid tissue.

Other causes of appendicitis mentioned in the literature were:

1. Foreign bodies and fecal concretions. In 1400 cases collected by Jas. F. Mitchell, foreign bodies were present in 7 per cent of the cases.
2. Strictures.
3. Ulcerations.
4. Heredity.
5. Influenza.

In looking over this last list of etiological factors one can still see that the anatomy plays a very important roll. Even foreign bodies, if we include enteroliths in this class, are often due primarily to anatomical peculiarities, such as kinking or stasis, both of which cause a change in the secretion and the formation of foreign bodies. Ulcerations probably often result from the pressure of foreign bodies or the retention of bacteria under pressure. It is hard to prove that heredity has anything to do with appendicitis. However we all know that certain families are victims of this disease. As early as 1899 Faisans advanced the idea that influenza and appendicitis were related as cause and effect, basing his belief on the fact that for the previous ten years appendicitis had become more frequent along with the increase in the number of cases of lagrippe, and that the number of cases of appendicitis increased with the increase in the number of cases of influenza. However, we must remember that influenza reduces the patient's vitality so much, that it isn't surprising the appendix suffers disease, especially in the gastric type of influenza when the vitality of the intestinal tract is lowered and the bacterial content increased.

In view of these anatomical variations to which the appendix is subject, it is doubtful in my mind whether Rosenow's theory will stand the test of time. Bacteria injected into the blood may cause an appendicitis, but some of the above mentioned factors must be present. It would be hard to convince me that bacteria circulating in the blood will attack any appendix which has a good circulation, no kinks, no strictures, no foreign bodies and no ulcerations. In view of the above mentioned facts I believe the best prophylaxis against appendicitis is thorough mastication of food, regular meals and regular daily movement from the bowels.

Region of the Gall Bladder—In most of the subjects examined adhesions in this region have been found and in many cases the foramen of Winslow was absolutely closed. This finding is in accordance with the growing belief that gall bladder disease is commoner than was formerly thought to be the case and that the so-called chronic gastritis is often nothing more or less than cholecystitis or cholelithiasis. Adhesions here not only cause circulatory disturbances in the gall bladder which may predispose to cholecystitis and cholelithiasis, but also cause circulatory disturbances in the stomach, which predispose to ulcer formation.

Liver—Variations in size and shape were common, especially in the female. In one case—an elderly female—the liver was twice as long as it was broad. The right kidney had contracted until it was no larger than the thumb, and its pelvis was filled with pus.

Kidneys—Variations in size were common, distinct fetal lobulation was sometimes found. In one case there were two pelves and two ureters. Just before entering the bladder the ureters anastomosed but bifurcated again and entered the bladder separately. In this case the other kidney was present and drained into the bladder in the usual way. In a case like this, careless cystoscopic examination with ureteral catheterization might cause the examiner to declare both kidneys diseased when perhaps the other kidney was healthy.

In another case the pelvis and calyces were practically extrarenal, the pelvis lying against the middle of the posterior surface of the kidney, the calyces entering the kidney after coming off

the pelvis in such a manner that most of the calyces were extrarenal. The renal artery passed to the anterior surface of the kidney, where it divided into three branches. Of these branches, one entered the anterior surface while the other two passed, one anteriorly, the other posteriorly, around the kidney to enter its substance posteriorly in close relation to the pelvis and calyces. To remove a stone from the substance of such a kidney might be difficult, since it would be hard to decide just how to cut in order to avoid cutting a large artery. Of course stone in the pelvis could be easily removed.

Bladder—In two cases the superolateral surface of this organ was firmly connected with the obturator foramen by a mass of fat and peritoneum. Judging by the strength of the connection, such a condition might lead to inability to completely empty the bladder and thereby invite cystitis and calculus formation.

Prostate Gland—In none of the cases examined this year—eight males—was the prostate noticeably enlarged. However, its relative nearness to the surface, and the distribution of the blood vessels and nerves in relation to it make me incline to perineal prostatectomy rather than the suprapubic, though I believe the suprapubic is at present the commoner operation.

The Penis—Most of the cadavers were negroes and most of the organs were large. In one case the penis measured ten inches in length in the flaccid state.

Colon—In none of the cases I have examined was there a mesentery to the ascending or descending colon. One case has been mentioned in which the colon had failed to completely rotate. In another case the cecum was situated in the middle line in front of the fourth lumbar vertebra. In still another subject the descending colon made a sharp turn when it reaches the crest of the ilium, ran upward as high as the left kidney and then turned down toward the brim of the pelvis, where it became continuous with the pelvic colon. The part of the colon making this excursion was bound down to the posterior abdominal wall, had no mesentery and was apparently contracted. Such an anomaly might lead to chronic constipation of a severe type and would certainly cause the

operator attempting to do a sigmoidostomy some trouble, since it would be very difficult to bring the bowel to the parietes.

Testicle—There was one case of undescended testicle. In this case the testicle was lying on the anterior abdominal wall about an inch above the external abdominal ring. It was situated between the muscles and the superficial fascia. It was flattened, but not much smaller than a normal testicle.

In closing I wish to apologize for devoting so much time to the etiology of appendicitis. I wish also to apologize again for the incompleteness of the paper owing to the lack of accurate percentages.

Selected Articles

ORTHOPEDIC SURGERY.*

BY A. M. TUBBY, M.S., F.R.C.S.
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Orthopedic Surgery for the General Practitioner—James Warren Sever (Inter-State Medical Journal, February, 1914, p. 125) discusses some common orthopedic affections which come more particularly under the notice of the general practitioner, and he selects—

(a) Limping in Children,
(b) Lateral Curvature of the Spine.
(c) Congenital Club-foot.
(d) Synovitis of the Knee-joint, and
(e) Infantile Paralysis,

as examples to illustrate his thesis.

(a) *Limping Children*—He remarks that it is almost a daily experience to see a child brought to the hospital on account of a limp in one leg of greater or less duration, and frequently the parents state the trouble is all in the knee. When the child is stripped and the character of the gait is noted, it will be seen at once whether the cause of the trouble is in the knee, hip, or ankle; further examination with the child on its back on the table will localize the trouble, which is generally in the hip. Pain in the knee without anything to show for it at that joint usually means hip trouble, both these joints, therefore, must always be examined carefully.

Another not uncommon cause of a limp is due to muscle strain of the leg following a fall or injury. In such cases, there is usually a slight limp of short duration, and a history of sudden onset

*The Practitioner, July, 1915.

after injury. On examination, it is found that there is very slight limitation of movement of the hip, especially in the directions of outward rotation and hyper-extension, and an X-ray of the hip joint usually shows nothing abnormal. Some of these cases, however, are due to slight synovitis of the hip joint, analogous to "water on the knee," and readily clear up with rest in bed and a flannel spica. Other cases are, however, of a more severe description, and an X-ray shows a partially displaced epiphysis. If the displacement is not at all great the best method of treatment is to apply a plaster spica with the leg slightly abducted; when the pain has ceased the patient is allowed to get about on crutches. Still more severe examples of slipped epiphysis call for forcible abduction of the leg, under ether, followed by the use of plaster of Paris and later on of a metal splint, which will keep the leg abducted. As Royal Whitman has shown time after time, this is the correct treatment for such cases.

When a limping child is seen, we should also bear in mind congenital dislocation of the hip, coxa vara and rickets, fracture of the neck of the femur and coxa valga. It should, therefore, be the rule not only to examine the hip and knee, but the spine as well. Tuberculosis of the spine, accompanied by a psoas abscess, causes a certain amount of flexion of the leg and irritation about the hip muscles; so that, when a patient attempts to walk, he will show some hesitation, of which the cause can be found on examination. A right-sided limp should lead to examination of the iliac fossa for an inflamed or suppurating appendix.

(b) *Lateral Curvature of the Spine*—To those who are doing school-inspection work, the following points should be emphasized. A child who carries one shoulder higher than the other probably has some kind of lateral curve, and so, too, has every girl who has a so-called high hip or large hip. It is necessary then to have the child stripped to the hips and examine the spine carefully.

Lateral curvature is of two kinds—

(1) Postural or physiological, and
(2) Structural or organic.

The first is curable by proper exercises, massage, and careful attention to the avoidance of mal-position. In the latter case, the treatment for the physiological type must be supplemented by some form of support, and it is well to recognize that in many cases it is useless or even harmful to carry out any treatment without instrumental support. It will readily be seen that when the spine is made more flexible by exercises it will consequently sag into a worse position than before, unless the improvement brought about by exercises is maintained in the intervals by a support.

(c) *Congenital Club-foot*—A club-foot, improperly treated, is one of the most difficult problems we have to meet, but it can be cured absolutely, if the child is given adequate treatment early enough, and by this is meant within the first eight weeks of life. Time lost at the start can never be regained and the earlier the treatment is begun, the more normal the foot the patient will have later in life. Manipulations may be commenced from the first day, and a suitable form of retention splint applied. The great object to aim at is over-correction of the deformity, and over-correction as applied to a congenital club foot means a foot well everted, abducted, and capable of full dorsiflextion. Later on, massage, especially of the anterior and external muscles, the application of a light support for from six months to a year to maintain the over-correction, and the constant use of the foot in weight-bearing, when the child is old enough to walk, are the measures indicated.

(d) *Synovitis of the Knee-joint* — This common condition, known as "water on the knee," is generally the result of trauma, and may be antecedent to tuberculosis. The treatment, therefore, should be complete and thorough from the first; and the indications are to fix the joint, to prevent weight-bearing to diminish the pain and tension in the joint, to get rid of the excess of synovial fluid, and to restore function within a reasonable time, without too great loss of power and muscular atrophy of the leg. To carry out these objects, a posterior splint, slightly bent at the knee, and rest in bed so as to keep the leg in a horizontal position are required. An icepack over the knee for 48 hours will limit the effusion, and it is rarely necessary, or indeed advisable, to tap the joint.

After the first few days the patient can get about on crutches, the weight being taken off the joint, and then radiant heat and gentle massage are of service. After the first week, the splint is taken off, and the knee bandaged with a flannel bandage, after having placed a horseshoe pad above the patella, so as to compress the synovial membrane fully, and then limited weight-bearing is allowed. The results are far better than if the splint is kept on for three weeks or more, in which time the joint, although it may have no fluid in it, will be found to be motionless and stiff, and several weeks may be spent in recovery of movement and in regaining muscular strength.

(e) *Infantile Paralysis*—This, especially in its epidemic form, is one of the diseases most to be dreaded. Recent experiences show that in the epidemic form the symptoms are often anomalous and misleading. The diagnosis before the onset of paralysis is extremely difficult, especially at the beginning of the epidemic. In an acute case of this kind, the first thing is absolute rest and free purgation. In many instances, the pain is relieved by putting the child on a Bradford frame, or using a plaster of Paris bandage. After the acute period, it is of the utmost importance to prevent stretching of the muscles, and the limb should be placed in such a position that there is no pull whatever upon them. A little ingenuity in the application of the splints may be required to effect this. The weakened limbs should be kept continuously warm, and suitable woolen clothing worn. It is doubtful if electricity does good in any stage in children; it irritates and frightens them, and has largely been given up. Massage, gentle in application, is of the greatest service, but the writer of this review is of opinion that much harm results from forcible and prolonged massage.

The Use of Silk Ligaments at the Ankle in Infantile Paralysis —Robert W. Lovett (American Journal of Orthopedic Surgery, January, 1915, p. 415) says that the use of silk ligaments to replace arthrodesis in complete infantile paralysis of the foot has been both advocated and condemned. It is a comparatively new operation, and, if successful, yields better results than arthrodesis, because the latter leaves behind it a stiff ankle joint; whilst, after successful operation by silk ligaments, plantar-flexion only is

checked and dorsiflexion is allowed, making walking much easier. The rationale consists of the attachment of an artificial silk ligament around which fibrous tissue forms, making a new ligament. The silk is not put in as a ligament in itself, but it serves as a base for the deposit of fibrous tissue, and therefore a long after-treatment is obviously necessary.

The results of seventy-nine operations at the Children's Hospital, Boston, the work of six operators, are given. The technique, however, varies among the operators. At first twisted silk was used, but this was followed occasionally by infection and extrusion of the silk. In 1910, however, braided silk Nos. 12 and 14, prepared in paraffin, was used. In 1913, Turner's silk No. 11, boiled in oxy-cyanide of mercury for thirty minutes, and then boiled with the instruments for thirty minutes, was tried. Later on, twisted silk Nos. 16 and 18, boiled for twenty minutes in a 1 to 1,000 solution of bichloride of mercury, and then boiled again in water with the instruments, was employed.

Lovett says that the use of any one method of silk preparation is not responsible for the expulsion of the silk. He has shown that this latter event may occur with various methods. The writer of this review, however, has formed the opinion, from some experience of this matter, that the best way of preparing the silk, and of anticipating the possibility of its being extruded, is to use twisted silk of No. 3 or 4 of our gauge, which has first been soaked in ether, then boiled, and afterwards placed for a week in a 1 in 1,000 solution of biniodide of mercury. We have not had, so far, any case of infection or silk sinus formation. In two of Lovett's cases of implantation there was direct operative infection, and the silk had to be removed in one case in about three weeks and once in four weeks. The other cases, before they gave trouble in this direction, ran from three to five months, and in one example to 15 months. In this last case it seems fair to attribute the trouble to boot trouble, but in the others it occured before the boot was put on.

Three different methods of implanting the silk have been used:

A. *Periosteal Insertion*—An incision is made over the skin of the tibia the periosteum turned back, and the silk quilted up one

side of the reflected periosteum and down the other, and two, four or more strands are then carried down under the annular ligament by means of a long flat probe, with a large eye, to an incision made in the tarsus, where it is desired to attach the silk. Here it is again quilted into the periosteum. The incision may be at the inner or outer side of the foot or at the middle, the strands being opposite to the desired spot and fastened there.

B. *The Open Bone Method*—The tibia is cut down upon and the periosteum deflected, then a bone drill, with an eye is driven through the tibia from side to side. A similar hole is made in the tarsus, and the silk is then secured through the holes.

C. *The Subcutaneous Bone Method*—In this method a drill, with an eye, is passed directly through the skin, without an incision, at the desired spot on the foot, and by means of a leader of silkworm gut the silk is carried through the drill-hole. The tibia is then drilled in the same way, without an incision, and through the drill-hole, slightly enlarged if necessary, a probe, with an eye, is passed down and out through one of the drill-holes in the tarsus, the silk passed through it, and drawn back and out of the upper hole. The same procedure is repeated for the other drill-hole of the tarsus. The silk strands are then drawn through the hole in the tibia by a leader, and the drill-hole where the strands emerged is enlarged sufficiently to allow a deep knot to be tied.

As to the choice of methods, Lovett prefers the open bone drill method, because the proportion of good results is greater by this than by the other two, and silk, implanted in the periosteum, often tears away. As to results, he classifies them as successful, when the desired result is obtained and the foot held at a right angle; partially successful, when the position was improved by operation, but there was some dropping of the foot; and as failures, when there is no perceptible improvement, although it is interesting to note that in no case was the condition made worse by it. Of 44 periosteal operations, where the result has been verified, 13 were successful, 9 partially so, and 22 failures. Of 17 bone drill operations, where the result was verified, 12 were successful, 2 partially so, and 3 were failures. Lovett's tables show a progressive improvement in results as the years pass by.

All the above have been done for paralytic talipes equinus; and Lovett, in addition, gives three cases of talipes calcaneus which have been operated upon by putting in a posterior silk ligament from the os calcis to the tibia. One of them was a complete failure; in the second, the calcaneus was improved, and in the third, although there was an abnormal amonnt of dorsiflextion, the foot was useful and much improved. In our own practice, we have had four very successful examples of moderate talipes calcaneus treated by this method, combined with shortening of the tendo Achillis.

It is often stated that while the leg grows, the silk does not, and that deformity follows as a result, but in no case of his series has Lovett seen any suggestion of this, nor has there been any evidence of over-correction in any way. The cases are kept recumbent for two or three weeks after the operation, and are kept quiet for two months or so; then they are put in plaster for from four to six months, and walking is restricted until a year after the operation. During this time, no unsupported weight should be put on the silk ligaments. In careless patients, it is desirable to fix the foot in plaster of Paris for a year. Lovett regards the implantation of silk ligaments as a useful operation, resulting in a good proportion of successes in paralytic feet. The most rigid technique is necessary, and prolonged fixation and support are essential, because the silk is not strong enough to hold up the foot of itself, but serves as a core of a ligament, which is the real supporting structure.

Albee's Bone Grafting Operation in Pott's Disease of the Spine —Edwin W. Ryerson (American Journal of Orthopedic Surgery, October, 1914, p. 259) reports the results of a series of 26 cases operated upon by him, and considers that they will bear comparison with those under any other form of treatment yet devised, especially when it is remembered that the majority of these patients have been long and patiently treated by conservative orthopedic measures, and were operated upon as a last resort.

The method has earned for itself a distinct place in the treatment of spinal tuberculosis, and can almost be classed as the acme of conservative treatment. As to technique, the operation should

be done rapidly but not hastily, and a double-bladed electric saw is a necessity for the saving of time. The splitting of the spinous processes must be carefully done, and a narrow rather than a broad chisel should be used. No attempt should be made to split the shafts of the spinous processes in children, for they are too thin. The most that we can do is to split the tips, and strip off the periosteum along one side. The muscles of the periosteum should not be separated on the opposite side of the spinous processed. Heavy braided silk sutures should be used. They should be boiled in perchloride of mercury and then in paraffin. These sutures should be strongly placed in the tissues or in the tips of the spinous processes themselves.

If it is desired to make any correction of the deformity, a point of great importance is to use a bone splint that will extend well above and below the diseased vertebræ. It is not too much for it to lie two or even three vertebræ above and below the limits of the disease, and it is far better to extend a vertebra to many than one vertebra too few. Incidentally, we may remark that it has been shown by Albee that this method of ankylosing the spinous processes of the vertebræ does not interfere with growth, for the growth increases *pari passu* with that of the spine.—*Pediatrics.*

THE NON-OPERATIVE TREATMENT OF LABOR.

BY EDWARD P. DAVIS, M.D.,
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The great gain made recently by obstetric surgery is striking and self-evident. It may not be inopportune to raise the question, What improvement has been made in the conduct of parturition not requiring an obseteric operation of considerable gravity?

The old practice of obstetrics was characterized by tedious uncertainty and by work done under great disadvantages, which often made impossible the best results. The practice of obstetrics in former times was essentially domestic, and the home of the patient was the place where any and all treatment, however difficult, was carried out. With the advent of the modern hospital and the development of antiseptic surgery, the most complicated and critical obstetric cases have gradually been given modern advantages. But in many instances the old conditions still prevail.

If we inquire what has made the average practice of obstetrics difficult and unsatisfactory, we find two important causes: first, economic reasons, and secondly, domestic superstition.

By economic reasons, we mean that compensation of attendance upon obstetric practice has been so little in comparison to equal skill and attention given to other cases that such practice has been avoided, and often done unwillingly to keep the medical practice of a family. The public have been so imbued with the idea that labor is a natural phenomenon and requires little if any attention, that they fail to recognize the value of skilled services in this department of medicine. Again, the ovarian tumor once removved will probably not return; the removal of a fibroid uterus will often end the patients disease and discomfort; a patient recovering from typhoid or pneumonia hopes not to undergo a second experience. But the tumor removed from a pregnant uterus grows and causes expense and trouble from the moment of its advent. There seems to be no end to the highly contagious and incurable diseases known as humanity, and so the public reason that they cannot afford to

pay so much for getting into trouble as they might willingly give for getting out of difficulties. The fact that the profession has been willing to undertake in private houses, often single-handed difficult operations which the surgeon would not risk except in hospital has led the public to believe that this is a right and proper procedure.

Domestic superstition has thrown around human parturition many obstacles to scientific progress. The firm belief in the mind of the mother of the patient that she, by virtue of age and experience, knows more about her daughter's case than any physician can; the belief that it is unworthy and reprehensible to have a child born anywhere but in the home; and proclivity that friends and relatives show to give gratuitous advice regarding these cases, combine to make them often difficult to manage. In this connection it is interesting to observe that the absolute essential of Krönig and Gauss's modern method of treating spontaneous parturition consists in absolutely excluding friends and relatives from the presence of the patient.

If we inquire how these difficulties to essential progress in obsteric art may be overcome, we suggest that obstetrics should be recognized as a specialty of equal importance with other branches of surgery. The logical conclusion of this proposition might lead to the abandonment of spontaneous parturition to the care of midwives, but this can not obtain in our country because our population is educated to demand better attention than the midwife can give. The public will not believe that obstetrics is a specialty until they see it practiced as a specialty by men specially educated and trained to carry out in all cases an antiseptic and aseptic technique, and who are familiar with such surgical procedures as may become necessary .

The question arises, Will it be possible to put all obstetric practice in the hands of the specialist? In considering this we may turn to the practice of surgery. The well-educated general practitioner does not hesitate to open abscesses, close unimportant wounds, stop moderate external hemorrhage in emergency, and often set a fractured limb or reduce a simple and minor dislocation; but he does not attempt to reduce a dislocation of the neck

of the femur or of the head of the humerus, nor does he attempt the major operations. So the general practitioner will conduct spontaneous and uncomplicated parturition, close superficial lacerations, and prevent threatened hemorrhage, without attempting major obstetric operations.

I believe, however, that no essential gain will be made in obstetric art until great importance is laid upon obstetric diagnosis. The specialty of the general practitioner in all branches of medicine is diagnosis. He is frequently the first to see the patient. Upon his diagnostic power will depend the choice, wise or unfortunate, of the method of treatment. If he can not recognize serious conditions valuable time may be lost and valuable lives wasted. He may not have the skill, experience and equipment to undertake surgical procedures, but diagnosis he *must* know for the good of the patient and the honor of himself.

In accordance with this idea, I have for some time laid special stress in teaching the senior class at the Jefferson Medical College upon the cardinal points in obstetric diagnosis. They are frequently told that but a small percentage of them will become obstetric surgeons, and it would be a misfortune to the community should it be otherwise. But with few exceptions all recent graduates, while finding themselves, will be called upon to make diagnoses, and upon their success in this will depend their future development, and often the life and health of the patient. Thorough diagnosis in obstetrics will classify cases into those which demand especial attention and hospital facilities, and those which in all probability will require little help and may safely be conducted in their homes.

The public are rapidly becoming educated in this matter. One of the keenest criticisms I have ever heard of an obstetric operation came from an Italian, who had witnessed with dismay the fruitless effort made by a practitioner to deliver his wife with forceps. In graphic language he drew attention to the fact that the doctor had not made traction in the axis of the pelvis, that he had not applied the forceps to the sides of the child's head, and that his procedure must inevitably fail.

The public are now alert to notice whether the medical attendant makes a careful preliminary survey of the patient, whether the pelvis is measured, the urine examined, attention given to the hygiene of pregnancy, and proper precautions instituted for the approach of confinement.

A further and most important step in the education of the public and one which is rapidly progressing, is the necessity for hospital care in complicated confinements. In cities having abundant hospital facilities it has for some time ceased to be uncommon to have confinement cases seek the aid of hospitals. But education of the public is desirable in obtaining pre-maternity care in the interests of both mother and child. In how many cases is this absolutely neglected?

The prime importance of obstetric diagnosis lies in its recognition of conditions which must make spontaneous labor impossible. A contracted pelvis, the overgrown child, the transverse position, the parietal bone presentation, and the presence of a tumor blocking the pelvis, take the case at once out of the class of spontaneous parturitions and place it among those requiring surgical procedure. Too much stress can not be laid upon the responsibility of the medical attendant in this matter. Many of the obstetric tragedies arise through the carelessness, ignorance, or haste of the practitioner who first sees the patient. Many conditions can be recognized during pregnancy, and the patient referred to hospital for successful confinement, which if undetected or neglected may result in grave danger and injury to mother and child.

An exact classification of those patients in whom one may expect spontaneous delivery, and those who should have the surroundings and equipment of hospital, is difficult. The treatment of normal labor applies only in normal individuals, and how rarely do we see them. Spontaneous parturition may occur precipitately or after great delay. In sudden violent labors, severe lacerations may be sustained, causing hemorrhage from torn vessels, and exposing the patient to the danger of infections, so delay followed by spontaneous birth may bring about relaxation of the uterus and hemorrhage. In neither of these cases has the parturition

been accomplished by an obstetric operation, and yet grave dangers have arisen in the case. If we were to classify the cases into those which may with reasonable safety be left at home and those which should go to hospital, we may say that all primiparous patients should be delivered in hospital, if possible; also those multiparæ who give a history of difficult preceding parturition. It goes without saying that all abnormal patients should be referred to hospital care.

This would leave for the general practitioner that rarest of all obstetric patients, the perfectly normal primipara, and those multiparæ not exhausted nor injured by previous labors, and in sound physical condition. Cases in which in all probability extensive laceration will accompany spontaneous parturition should be referred to hospital, or put under the care of skilled obstetricians if they insist upon remaining at home.

In the non-operative treatment of labor, the case having been correctly diagnosticated as one in which the elements for spontaneous parturition are all present, must be conducted with two important objects in view; first, the prevention of exhaustion; and secondly, the relief of pain.

As regards the first, the introduction into obstetric art of the trained nurse has revolutionized the management of the first stage of labor. Formerly this was left to anxious and gossiping relatives, who frequently gave the patient worse than no aid, and kept her in a condition of excitement which induced exhaustion. At present the trained nurse protects her patient from depressing influences, lessens suffering and delay by seeing that the bowel and bladder of the patient are frequently emptied, induces rest by making the patient as comfortable as possible, and sustains her strength by giving her proper nourishment at proper intervals. The feeling of security which the presence and care of the disciplined, skilful, and self-possessed nurse affords is an element of great value in securing a successful first stage. This is essentially the nurse's province in labor,as she usually has the patient to herself alone, and is often personally responsible for her success or failure. She should carry the patient through this trying time with the minimum of delay and suffering, and bring her to

the active stage of parturition in good condition. With the nurse, as with the general practitioner, a thorough drill in obstetric diagnosis is requisite. She must know the signs of labor which is progressing naturally and successfully, and the symptoms of failure in progress and threatened exhaustion. She may with propriety be taught to listen for fetal heart sounds, and she should be able to diagnosticate rupture of the fetal membranes. As to whether she should be trained to make vaginal examinations, there may well be difference of opinion. Personally, I should extend this duty only to those nurses whom I have known for some time, who had received such training by acting as head nurses or clinic nurses in maternity hospitals, and in whose asepsis and antisepsis I had every reason to have confidence. Were these conditions not fulfilled I should certainly be strongly against it.

Shall drugs be employed in mitigating the nagging and irregular pain of the first stage of labor, or shall the patient be allowed to worry through as best she may, receiving no further aid than that given by the nurse?

There can be no question concerning the value of analgesic drugs during the first stage of labor, which by its duration, and the nagging character of the pains, threatens exhaustion. Among the remedies which have survived long usage opium stands easily the first and most important. Perhaps the only real benefit to the public arising from the present popular discussion of this subject will be found in the education of the public to expect hypodermic injections. Thus, morphine and atropine may be given hypodermically without remonstrance by the patient, where formerly dread and dislike to this method were encountered.

With the first stage of labor dragging on through the night with but little progress, and threatened exhaustion, this familiar expedient is best of all. For simple nervousness only, the use of bromide of sodium, given by the mouth, impresses the patient with the idea that something is being done for her. During this stage of labor one may best interpret this phenomenon by calling to mind what is our knowledge concerning pain. This may be described as the reaction of the cerebrum to disturbing impressions. When, however, the pain is so severe as to depress the

vital centers the phenomenon of shock develops. The pain of parturition is seldom a symptom of the patient's danger. It rarely disturbs the pulse, temperature, or respiration. Its logical treatment then calls for those remedies which soothe the cerebrum.

This view of pain explains the success of the endeavor to treat the patient by appeals to the imagination. Thus the Christian scientist who at a safe distance treats the patient by prayer, the belief in a certain sacred or holy object, the finer challenge to maternal ambition with the resolve to endure pain—all illustrate the brain treated by suggestion.

But difficulty in managing these cases mentally lies in the fact that there is no period of rest and sleep, such as one observes in the second stage of labor between active uterine contractions. It is the constant nagging character of the pain which makes it difficult to control it except by narcotics. Possibly the greatest mistake which could be made at this time would be the attempt to lessen the patient's suffering by the use of an anesthetic. I well remember a case seen in consultation in which a physician, more sympathetic than wise, had caused a woman in her first labor to inhale ether during the greater part of the day. She finally came to the second stage thoroughly drunk, requiring delivery by forceps, followed by relaxation of the uterus, and severe hemorrhage.

The power of the brain to paralyze the efforts of labor may be observed in those cases in which abject fear prevents the normal development of parturition. In my experience a young primipara, illegitimately pregnant, had been told by a fortune-teller that she would die in labor. With difficulty, and under constant attention and stimulation, she passed through spontaneous parturition, but died of heart-clot a few hours after.

Here comes in the efficiency of the disciplined and self-possessed nurse, who during the tedious hours of the first stage of labor may study the patient's mind and comfort and encourage her.

In my experience, few patients, however apparently normal, last through the second stage of labor without some evidences of exhaustion of the nervous system. Here the element of time is of importance, for the child is subjected to more or less pressure, and delay may be fatal to the fetus if not to the mother. Here

again the hypodermic method may serve as well, and in my experience the hypodermic use of strychnine and digitalin in moderate doses is valuable. In patients greatly depressed by suffering I am accustomed to add to this a moderate dose of codeine.

The posture of the patient during the second stage of labor is of primary importance, and may assist greatly in the mechanism of labor, thus avoiding delay and fatigue.

At the moment of the expulsion of the child abundant experience proves the value of the inhalation of ether to the degree of temporary but complete unconsciousness. To carry this out successfully the obstetrician must wait until the presenting part is thoroughly distending the pelvic floor and perineum. If the bimanual method of managing labor be adopted, the patient is turned upon her left side, the right hand of the obstetrician filled with antiseptic gauze is held over the anus and pelvic floor, and the left hand placed between the patient's thighs. In controlling the exit of the head the time may be chosen when the head is completely under control to induce rapid anesthesia. With the patient unconscious, the head may be held with the left hand while the right hand slips the perineum and pelvic floor over the face of the child, and the head is born. When the anesthetic is removed the patient will arouse sufficiently to expel the remainder of the child's body without undue delay. Should uterine contraction be needed, rubbing the uterus through the abdominal wall will bring about the desired contraction.

If the patient is not nauseated during labor, the old custom of giving a teaspoonful of fluid ergot by mouth may be followed just before the obstetrician is ready to express the placenta. If there has been irritability of the stomach, again the hypodermic method may be used, and aseptic ergot given beneath the skin, with also a hypodermic injection of strychnine and atropine. The delivery of the placenta should follow speedily, and the uterus should promptly contract.

Shall lacerations be immediately closed, or shall the practitioner await his convenience in this matter?

My experience leads me to believe that the immediate closure of lacerations, including those of the cervix, is indicated. Where

the patient is exhausted, or the physician needs assistance, and the surroundings are unfavorable, a delay of twenty-four to thirty-six hours may be practiced to secure the proper conditions. In immediate repair of cervical injuries we have had 80 per cent complete union, 10 per cent partial union, 10 per cent no union, with no case of septic infection.

Here again we come upon the difficulty of successful closure of considerable lacerations by the general practitioner. Our classification of obstetric cases would send to hospital those in whom one could anticipate serious laceration. But the unexpected often happens, and deep and extensive tears may follow spontaneous birth. Unless the practitioner is equipped in skilled experience he would do well to delay until he can summon assistance and secure favorable conditions for the operation.

We have endeavored to indicate that the non-operative management of spontaneous labor is only possible where critical and accurate diagnosis has first assigned the given case to the class in which one should expect successful spontaneous labor with a minimum of injury, delay, and danger. Even under these favorable circumstances the practitioner must give to this patient intelligent, watchful nursing, thoroughly clean and aseptic surroundings, intelligent comprehension of the phenomena of labor, skilful and intelligent use of reliable drugs, and considerable experience and skill in the delivery of the child and the repair of minor injuries. How often do these conditions obtain in what are erroneously styled natural births?—*The Therapeutic Gazette.*

Extracts from Home and Foreign Journals.

SURGICAL

The Psychic Factor in Surgery.

Whatever may be the ultimate sifinicance of Crile's anoci-association doctrine in its relation to surgical shock, it has at least served one excellent purpose; it has called widespread attention to the esthetic and suggestive element in our dealings with our patients, especially in the realm of surgery. For years we have inexcusably neglected this factor. Not only are no particular pains taken to shield the patient from the sight and sound of all the dreadful paraphernalia pertaining to the preparation for a serious operation, but, on the contrary, there seems to be a special conspiracy to parade it all before the victim's shrinking eye and ears.

There is no excuse, in these days, for such a brutal neglect of all the psychological demands of the case. All the healing cults—Christian Science, mental healing, New Thought, and the like—have learned the lesson and put it into practice. Perhaps they have overdone it a little. Regular medicine alone remains heedless. Possibly its attitude has been one of thoughtlessness, rather than of deliberate disregard. It has been disposed to look upon this aspect of the matter as trivial and unimportant.

There is a limit to such psychology, of course. Extremes are always irrational. No one wishes the attitude and behavior of the surgeons and his corps of accessories, before and after the fact, to be one of irresponsible and frivolous trifling, as though there were nothing serious afoot at all. Such a course would be just as hysterical and irritating to the patient's overwrought sensibilities as the opposite course is morbid and depressing. Everybody knows how trying, under some severe mental stress, is the light-hearted, unfeeling prattle of an acquaintance who knows

nothing of the strain we are under. To imitate that sort of attitude would be foolish and futile.

What gives strength and composure in such times of stress is the ministration of a friend who knows, but who thoughtfully and tactfully relieves the situation of all its morbid, sombre entourage, and sheds an air of calm confidence in the outcome. This should be the ideal at which our pre- and post-operative treatment of surgical patients should strive. "It is not death that men fear," said some ancient philosopher (Bacon, we believe), "but the paraphernalia of death." The same is largely true of a surgical operation; and it should be the aim of our modern system to shield the patient from its horrible paraphernalia, both psychic and material.

We emphasize the importance of this matter in surgery, because it is there that we doctors are guilty of the greatest neglect; and there, perhaps, that patients suffer most from our neglect. But the lesson applies in every department of medicine—in the arrangement and decoration and conduct of the doctor's office, in the matter of prognosis (many a sensitive patient has been psychologically, if not actually, killed by the abrupt announcement of his death-sentence, either verbally or in the expression of the doctor's face), in the management of the sick-room, and, in short, in every relation between the physician and the patient.

Whatever we may think, and whatever may prove to be the case, concerning the direct effect of anoci-association upon actual surgical shock, nobody can gainsay the influence of emotions and sensibilities upon vital function and resistance during the consciousness of the individual; and it is certainly an important part of the physician's business to reckon with and utilize this psychic element.—*The Medical Brief.*

Transverse Incision in Appendicitis.

A. E. Rockey first advocated this method in an article in the Medical Record in November, 1915, entitled "Transverse Incision in Abdominal Operations." In the region of McBurney's point, the fibers of the internal oblique and the transversalic run directly transverse, and the external oblique is only an aponeurosis. The

aponeuroses of these muscles are united at their insertion at the border of the sheath of the rectus, the fibers of the broad tendons becoming a part of the sheath. This junction is the key to the situation in this operation. The skin incision at the place of election is made directly transverse with its center on McBurney's point, though it may be lower if conditions require. While the favorite anatomical situation permits easy access through a short incision, which may be desirable in children, or small persons with thin abdominal walls, the incision in ordinary cases should be 2 or 2½ inches in length and may be longer as the case requires. Continuing deeper it passes through the outer part of the sheath of the rectus, severing the tendinous border and the aponeurosis, of the muscles on a directly transverse line. When this is done, the handle of the scalpel may be inserted below, and the finger above, and the wound spread wide open by a single pull. Not a muscle fiber is cut. The fibers of the internal oblique and transversalis separate in a transverse direction. The aponeurosis of the external oblique is broader than that of the other muscles, thus permitting the incision through this to be carried further to the outer side. When the muscular part is reached, the spreading pull separates the fibers obliquely upward. The muscle is, however, as elastic as rubber, and the retractor, which is at once inserted, drawing outward, readily brings it into the transverse line. The rectus is now drawn back into its sheath at the inner side by another retractor. The peritoneum is divided on the transverse line. This incision is said to give a splendid exposure but is not adapted to pelvic operations. If doubt exists as to the differential diagnosis between the appendix and the tube or the appendix and the gall-bladder as the site of trouble the vertical incision is preferable. In the occasional case, when the appendix is adherent in the pelvis, a preoperative diagnosis can usually be made.—*Medical Record.*

Cancer Immunity Promised.

The Rockefeller Institute has announced, through the Academy of Science at Washington, a discovery by two of its investi-

gators whereby immunity from cancer, it is hoped, may be obtained. The investigation was conducted by Drs. James B. Murphy and John J. Morton over a period of two years, with the result that in the white lymph cells of the blood there are the necessary factors in making animals immune from cancer. The physicians declare that a decided increase of the white lymph cells gives absolutely immunity. In several mice treated with a serum of lymphoid tissue the number of white lymph cells in the animals almost doubled within a few days. It was also found that two kinds of animals and humans were immune from cancer—those naturally immune and those in whom immunity was induced through the previous injection of lymph tissue—*New Orleans Medical and Surgical Journal.*

Nephropexy.

Marion, Journal d''Urologie advocates a revival of this operation. He reports 53 operations without deaths. Twenty-six cases were followed. Only one case was made worse. Pain was relieved. Digestive disturbances were cured in 6 to 16 patients. Four nervous conditions were relieved out of eight. (Note: We confess to a prejudice against this operation. E.g. woman, 3rd degree right kidney, operated on contrary to advice. Kidney firm as a rock, 10 years after operation, in a peculiar slanting abnormal position. Almost constant pain. Similar case, kidney fairly firm but urine has shown albumin and casts after operation, normal previously. Case of unexplained nephralgia. Kidneys not movable but anchored under belief that they were. Pain not relieved. Case referred back on the ground that kidneys had worked loose again. They were not loose and never had been. On the other hand, there is no question but that certain cases are permanently relieved by operation. Still, a bandage holds the kidneys in fairly good position and relieves the pain and nervous reflexes. Slight movability may be permanently cured by deposit of fat due to better nutrition. Third and usually second degree cases can not be cured by medical treatment but, after wearing the bandage for a few months, permanent subjective relief may usually be

expected and, at the worst, the bandage has to be resumed occasionally.—*Buffalo Medical Journal.*

MEDICAL

Treatment of Tuberculosis by Compression.

Eugene Grenier, of Montreal, Jour. de Med. et de Chir., Aug., gives the following historic notes: Carson of Liverpool, 1822, suggested that pulmonary collapse would expedite healing; Ramadge of London, 1834, arrived at the same idea; Piorry, about 1865, advocated strapping the chest; Forlanini of Pavia began a series of articles on the subject in 1882 but did not do his first therapeutic pneumo-thorax operation till 1892, about which time, Murphy of Chicago employed the same measure. Among 327 tuberculosis patients observed by Grenier in the year ending June 30, 1915, 19 were selected for artificial pneumo-thorax; 12 cases have been observed long enough for a report. The attempt at pneumothorax failed in one case. Of six cases of complete pneumothorax, 4 have been arrested, 1 ameliorated, 1 has shown no improvement. Of 5 cases of incomplete pneumothorax, good results have been obtained in 2, fair in 1, and failure in 2.—*Buffalo Medical Journal.*

Present Status of Disease of the Bile Apparatus and Pancreas.

Hochhaus regards cirrhosis of the liver as the result of a number of interacting causes which explains why it is so refractory to treatment. Referring to the bile secretion, he calls attention to recent study of the secretion of bile in a man with a fistula into the liver (Ignatowsky). Animal albumin stimulated the production of bile much more than vegetable albumin, and fat even still more. Mineral waters, on the other hand, checked the secretion of bile. These findings confirm empiric experiences. Reach reported last year that morphin, epinephrin, pilocarpin and atropin

increased the tonus of the sphincter at the palilla of Vater and thus retarded the outflow of bile, while papaverin relaxed this sphincter. Hence the latter might relieve in jaundice in which spasm of this sphincter is a factor. In the diagnosis of pancreas disease, an excess of creatin or fat in the stools is easier to determine and more decisive than the ferment content. Hustin's recent research has confirmed the statements as to the stimulating action of pilocarpin on the pancreas. He found (experimentally) that this action was not direct but occurs only when part of the intestine is functionally capable. When this is the case, pilocarpin intravenously stimulates pancreatic secretion. Sodium bicarbonate seems to have the opposite effect, depressing pancreas secretion. Wildbrand concludes from his study of this subject that sodium bicarbonate can be relied on to check the external secretion of the pancreas while the internal is probably stimulated by it.—*Journal of the Amer. Med. Asso.*

Indicanemia.

Haas refers to the original discovery of indican in the blood of uremic patients by Obermayer and Popper. Their observations were promptly confirmed and soon afterward it was learned that indican could be present in the blood in both acute and chronic nephritis when there were no evidences of impending uremia. It is now acknowledged that indicanemia is rather an unfavorable prognostic in chronic nephritis, or, in other words, is evidence of a certain degree of renal insufficiency. The author decided to study the subject of indicanemia anew on two cases of chronic nephritis. One patient had cirrhotic kidneys with high blood pressure, while the other had ordinary chronic parenchymatous nephritis with blood pressure normal and much albumin in the urine. Both patients had indicanemia and in both the residual nitrogen was still normal. It therefore became evident that the presence of indican in the blood antedates azotemia as evidence of future mischief, and the more delicate and trustworthy the test for indican in the blood the greater the promise for a prognostic resource. Also of great importance is the ratio between residual

N and indican in the blood. The amount of the aminoacid fraction of residual *N* may also be looked on as representative of the degree of renal insufficiency, and the ratio of aminoacids and indican in the blood should furnish another criterion of that condition. The rest of the paper is devoted to a study of Jolles' indican reaction.—*Medical Record.*

Further Use for Emetine.

Emetine is a wonderful drug, says *Clinical Medicine.* Already it has been definitely and permanently credited with three important therapeutic fields of action in which it has proved itself to be virtually a specific; and it appears the end is not yet. Experimental research and clinical observation continue to be carried on and seem to be revealing still more scope, or at least greater possibilities, for this remarkable remedy.

Elsewhere in the journal cited is an abstract of an article from the pen of one W. A. Tatchell, published in *The China Medical Journal* of May, 1915 (the same quarter of the world, by the way, from which came the official confirmation of its specificity in amebic dysentery), giving a report of some striking results obtained from the use of emetine in pulmonary tuberculosis; not, however, as naturally might be supposed, in the arrest of hemoptysis, in which role emetine has already established itself, but in the general improvement of the patients and, what is yet more noteworthy, in the disappearance of the tubercle-bacilli from the sputum.

The report is, of course, too meager and incomplete to warrant, as yet, any positive conclusions, even in cases reported, much less any generalizations concerning the effect of emetine, if any, upon the micro-organisms or the lesions they produce. Nor are we ununmindful of the inevitable tendency, even among scientists (who are just as human as other men), to exaggerate the virtues of a newly investigated and really wonderful remedy. Nevertheless, when an allowance has been made for these considerations, there is enough in Dr. Tatchell's report to make us "sit up and take

notice." Certainly, this question is worth looking into, thoroughly and earnestly.

Tuberculosis is such a disastrous disease, and our present weapons of attack and defense against it so few and unsatisfactory, that anything which holds a promise of efficacy demands our painstaking investigation. On the other hand, emetine has, within the last few years, disclosed such remarkable therapeutic qualities in directions where they were least expected that it will pay, in view of the Dr. Tatchell's report, to conduct experiments with it in this newly suggested field. Inasmuch as emetine appears to be harmless when given in reasonable doses, there is no reason why it should not be given a thorough and complete trial in a long series of cases of tuberculosis—*The Medical Brief.*

OBSTETRICAL

Against Ligature of the Umbilical Cord.

The structure of the vessels of the normal umbilical cord is such that when divided or torn they do not bleed. This fact has been overlooked by obstetricians, who almost universally ligature the cord before division. A. N. Rachmanod (*Med. Rev.*), who is the Director of a Lying-in-Hospital in Moscow, first proposed in 1907 not to ligature the cord in normal full-term infants, and has since carried out the method in 16,000 cases. Of 10,000 consecutive births during 1909, 1910 and 1911 the cord was not ligatured in 8,283 cases (82.83 per cent.). In 1,717 it was ligatured. In 428 the ligature was applied without indication by midwives unused to the routine. In 238 the cord was ligatured, because immediate separation of the child was required owing to the necessity for operations or to control maternal hemorrhage. In the remainder the indications for ligature arose from abnormalities of the child. If the cord is not divided before all pulsation has ceased (12 to 18 minutes after delivery) only a few drops of blood escape in a healthy child. If hemorrhage occurs the ligature may then be applied. This only occurs in pathological cases and is due

to hemophilia, syphilis, or other disease predisposing to hemorrhage. The writer claims that the cord thus left to itself becomes dessicated remarkably rapidly (within 20 or 24 hours), but does not completely separate until the fifth or sixth day. Ligature of the cord should be reserved as a therapeutic measure in pathological cases such as premature birth and asphyxia neonatorum, or owing to maternal indications, such as post-partum hemorrhage.—*Critic and Guide.*

Exclusive Radiotherapy of Uterine Cancer.

Flatau has not operated on cancer of the uterine cervix since 1913. The proportionate number of women still living and cured under radiotherapy alone is larger than he could ever report before with abdominal operations for cancer of the cervix. It is beyond question that an incipient cancer focus can be destroyed by radium without leaving a trace. But certain experiences have suggested the possibility that although the primary focus may thus vanish without leaving a trace, there is a possibility that metastases may develop at remote points, far beyond the scope of the rays. Time alone can tell whether radiotherapy will oust surgery from the arena of treatment. The surgeon and the radiotherapeutist can go on working, each in his sphere; in time comparison of the results will show which is superior.—*Journal of the Amer. Med. Asso.*

Intestinal Toxemia of the New Born Due to Retained Meconium.

Intestinal toxemia in the new born is best described by Dr. J. L. Morse (*American Journal of Diseases of Children,* Vol. X, p. 229), who says it is not at all an uncommon one and unless recognized may end fatally. (Philip S. Potter, *Pediatrics,* June 1915.)

It would not be amiss to quote the symptoms as outlined by Dr. Morse, inasmuch as it is practically impossible to find a description in the textbooks.

"A baby that was normal at birth and has continued to seem normal and to do well up to the second, third, fourth or even fifth day, becomes rather suddenly ill. He is likely to cry and moan considerably, although he is not infrequently unusually quiet. Attacks of cynanosis are a common and early symptom. Twitching of the extremities, slight general rigidity and retraction of the head come on in many instances, while convulsions are not infrequent. The temperature is, as a rule, only moderately raised, but may be high. In the more severe cases the baby refuses to nurse. Vomiting is uncommon. There is in most instances no diarrhea, in fact, the tendency is to constipation. In the majority of instances the symptoms develop before the baby has ceased to pass meconium, and it is very common to find it has not passed as much as the average baby. If the stools are not composed of meconium, they are usually small in amount, loose, dark brown and contain small, soft curds and mucus. They are often offensive. The abdomen may be distended, but usually is not. Loss of weight is generally rapid, the face becomes pinched, and in all but the mildest cases it is evident that the baby is seriously ill. If the bowels are thoroughly cleaned out, all food stopped for a time and water given freely, recovery is usually rapid and complete. If the bowels are not cleaned out and food is continued, a fatal termination is not uncommon and recovery is, in any event, slow."—*Medical Review of Reviews.*

Editorial

PUBLISHER'S NOTICE—The Journal is published in monthly numbers of 48 pages at $1.00 a year, to be always paid in advance.

All bills for advertisements to be paid quarterly, after the first insertion of the quarter.

Business communications, remittances by mail, either by money order, draft, or registered letter, should be addressed to the Business manager, C. S. Briggs, M. D. corner Summer and Union Streets, Nashville, Tenn.

All communications for the Journal, books for review, exchanges, etc., should be addressed to the Editor.

THE CALL OF THE LOW COST.

"A very telling article appeared in Puck, issue of April 15th, comparing the investment of time and money necessary to qualify for the practice of medicine and of Christian Science. It is conservatively estimated that the average medical graduate has given from four to seven years of his time, representing at least $3,000; living expenses during course, $3,000; books, instruments, laboratory charges, etc., $1,000; hospital internship expenses, $1,000; or $8,000 as the cost of his preparation for care of the sick. The Christian Science "healer" buys a copy of Mother Eddy's "Science and Health," at $3.00, and a Prince Albert suit at $35.00; $38.00 in all, prepares him to pray over poor fools for pay. Why be a hardworking doctor."

The above editorial, taken from Pharmacal Advance, explains financially the rapid growth of Christian Science in this country. At the same time it explains the increase in the number of healers of all sorts though it makes no specific reference to them. Until our legislatures see fit to enact laws that will control all manner of healers and put them on the same basis as regular physicians, this increase is going to continue from year to year. That homoepathy, Christian Science, Osteopathy, Chiropractic and other such schools of healing have some good points cannot be denied, but that they can be practised without the same preliminary train-

ing that doctors take, is very wrong and seems very much like class legislation. If some of our leading practitioners switched off from regular medicine to some of those other schools it would not be so bad since they would be eminently qualified to judge just in what cases to use their healing powers and in what cases to use something more material than absent treatment or strict homeopathy. That none of the best regulars ever change is one of the strongest arguments against these new schools of healing.

If surgeons operated and never found pathology, if the post-mortem room findings were always normal organs, then disease could be attributed to the mind, and mental treatment would be *the* treatment. However, we all know that such is not the case, and we also know that the teachers and professors of these new healing arts can never know whether real pathology exists or not. Real doctors can not always differentiate imaginary ills from the real. If such is the case, then how can we expect from those who have had a very insufficient schooling, to say the least, anything better?

To treat diphtheria, acute appendicitis, a ruptured ectopic gestation, a fractured thigh, malignant tumors and a thousand other conditions by anything else than the knife or some medicine known to be potent, is criminal, and yet, owing to the presence of these healing arts in our midst, such is being done every day. Of course they will all die out in due time, but in the interim many lives will be lost. The question is, isn't the medical profession largely to blame for this state of affairs? Have you, doctor, said or done anything that might protect the people against such arts?

LITERARY PROGRAM 46TH ANNUAL MEETING AMERICAN MEDICAL EDITORS' ASSOCIATION.

October 18th and 19th, 1915, 9 a. m. Sharp.

President's Address—"The Opportunities of the Hour for American Medical Journalism." By Dr. H. Edwin Lewis, Editor American Medicine.

"Twenty-five Years in Medical Journalism." By Dr. Edward C. Register, Charlotte, N. C., Editor of Charlotte Med. Journal.

"The Influence of the Physician in Public Affairs." By Dr. Ira S. Wile, New York City, Editor Medical Review of Reviews.

"Some Aspects of Medical Sociology." By Dr. James P. Warbasse, Brooklyn, N. Y., Special Editor Am. Journal of Surgery.

"Some Fundamental Consideration of the Problems of Narcotic Drug Addiction; The Medical Editors Responsibility."* By Dr. Ernest S. Bishop, New York City, Prof. Clinical Medicine, N. Y. Polyclinic.

"Coöperation Between the Medical, Pharmaceutical and Dental Professions." By Dr. Samuel F. Brothers, Brooklyn, N. Y.

"The Relation of the Specialist to the General Practitioner." By Dr. Anthony Bassler, New York City, Editor Am. Journal of Gastro-Enterology.

"The Medical Reserve Corps of the United States Army." By Dr. Harold Hays, New York City.

"Hydrotherapy 'The Cure' in America." Illustrated by Moving Picture Films and Lantern Slides.* By Dr. William George Russell, Philadelphia, Pa.

"Publicity for the Medical Press."* By D. DeWitt Clough, Chicago, Ill., American Journal of Clinical Medicine.

"The Medical Reprint, Its Place in Medical Literature." By Dr. John W. Wainwright, New York.

"The Doctor and Medical Legislation. The Medical Editor's Obligation." By. Dr. C. F. Taylor, Philadelphia, Pa., Editor Medical World.

"Medical Compensation Law."* By Dr. Thomas Darlington, N. Y. C., Ex-Commissioner of Health, Member N. Y. State Workingmen's Commission.

"The Problem of the Medical Expert."* By Dr. J. J. A. O'Reilly, Brooklyn, N. Y., Member New York Bar.

"The Lights and Shadows of a Ship Surgeon's Life."* By Dr. E. Arkwright Jockardy, Surgeon S. S. "Kursk', Russion American Line.

"The Possibility of a New Specialty."* By Dr. B. F. Roller, B. S., New York.

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*By invitation.

"Our Trade Mark Laws in Relation to Foreign Made Drugs. A Problem of the Hour."* By Dr. F. E. Stewart, Philadelphia, Pa., Chairman of Committee on Patents and Trade Marks, American Pharmaceutical Ass'n.

CONTROLLING CANCER IN ENGLAND.

Portsmouth was the first municipality in England to undertake a public educational campaign for the control of cancer, and it would appear that the measures adopted in 1913 are already taking effect. The annual report of the Medical Officer of Health, Dr. A. Mearns Fraser, for the year 1914, which has just been received, states that there were only 197 deaths from cancer in Portsmouth last year as compared with 230 in 1913. This decrease, which occurs in the face of an increase of population, is hailed with satisfaction by the Portsmouth sanitary authorities as justifying their efforts to reduce the cancer death rate by persuading persons who are attacked with this disease to avoid delay and to seek treatment before it is too late for more than palliative measures. Dr. Fraser reports that from statements made to him by local medical men the publication of circulars and newspaper articles by the Health Department has been instrumental in inducing a number of persons suffering from early operable cancer to secure treatment, the result of which it is hoped will be permanent.

When the educational measures were put in force two years ago, the cancer death rate of the city had for a long period been increasing. Twenty years ago the average death rate from cancer in Portsmouth was 6.79 per 10,000 of the population, but in 1913 it had risen to 9.16 per 10,000. In that year the total number of death was only 34 less than were caused by tuberculosis. While admitting that the increase in the recorded cancer death rate might have been caused in part by improved methods of diagnosis, the Health Committee of the Portsmouth Town Council nevertheless believed that the present number of deaths was unnecessarily

*By invitation.

large, and they felt it incumbent to adopt whatever measures might lesson the ravages of the disease. The initiative came from Dr. Charles P. Childe, senior surgeon of the Royal Portsmouth Hospital and a member of the Health Committee of the Town Council. As early as 1906 Dr. Childe in his book "The Control of the Scourge" had given to the public the benefit of his extended experience with cancer. At his suggestion the Portsmouth authorities in 1913 began a campaign of public education under the official auspices of the Health Department. The methods adopted included the monthly publication in the local newspaper of articles regarding cancer and the printing and distribution of a Health Department circular on the subject. Arrangements were made for periodical lectures to midwives, nurses, and to those engaged in social work in Portsmouth. The Health Department further made provision for free microscopical examinations and reports on suspected cancerous growths in order to assist physicians in immediate diagnosis in the case of patients who were unable to pay for such laboratory service. The experience of the Portsmouth authorities had been that by far the majority of patients who presented themselves at hospitals suffering from cancer exhibited the disease in a stage too advanced to be cured. It was held that the reason for this delay in seeking advice was not as a rule because patients feared operation, but because they were ignorant that they were suffering from anything serious until they began to suffer pain. The fact that cancer at its onset is almost always painless should be widely realized in order that the public may learn the importance of other symptoms which will enable them to recognize the disease in the early stages when it can nearly always be successfully removed by competent surgery.

It is Estimated that 50 per cent of all Blindness Is Preventable.

This statement will be surprising to many—that one-half of the sightless people in this country need not have been blind had proper care been given to their eyes. But it has long been known

by those endeavoring to prevent unnecessary blindness that more than a quarter of the pupils in the schools for the blind are sightless because their eyes were not properly treated during the first few days of life; that poor midwives are in part responsible for this tragedy; that children become totally or partially blind from neglected "sore" and "weak" eyes and from neglect after attacks of such infectious diseases as measles, scarlet fever, etc.; that progressive nearsightedness among children may cause total or partial blindness if neglected; that household and industrial accidents cause the loss of many eyes; that drinking wood alcohol or inhaling its fumes in close places cause both blindness and death; that inadequate lighting and glaring surfaces are responsible for much visual disturbance, including eye-strain; and that eye-strain is a frequent cause of both mental and physical inefficiency.

Visiting nurse organizations and womens clubs, working independently or, better still, together, can perform valuable service in the elimination of these causes, thereby saving babies, children and adults from lifelong blindness.

Examination of Candidates for Assistant Surgeon.

Treasury Department,
United States Public Health Service.

Washington, September 7, 1915.

Boards will be convened at the Bureau of Public Health Service, 3 "B" Street, S. E., Washington, D. C., and at the Marine Hospitals of Boston, Mass., New York, N. Y., Chicago, Ill., St. Louis, Mo., Louisville, Ky., New Orleans, La., and San Francisco, Cal., on Monday, November 1, 1915, at 10 o'clock, a. m., for the purpose of examining candidates for admission to the grade of Assistant Surgeon in the Public Health Service.

Candidates must be between 23 and 32 years of age, graduates of a reputable medical college, and must furnish testimonials from two responsible persons as to their professional and moral character. Credit will be given in the examination for service in

hospitals for the insane or experience in the detection of mental diseases. Candidates must have had one year's hospital experience or two years' professional work.

Candidates must be not less than 5 feet, 4 inches, nor more than 6 feet, 2 inches, in height, with relatively corresponding weights:

The following is the order of examination: 1, Physical; 2, Oral; 3, Written; 4, Clinical.

Candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

Examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercises covers the various branches of medicine, surgery, and hygiene

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital.

The examination usually covers a period of about ten days.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order. They will receive early appointments.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Passed Assistant Surgeons after twelve years' service are entitled to examination for promotion to the grade of Surgeon.

Assistant Surgeons receive $2,000 Passed Assistant Surgeons $2,400, Surgeons $3,000, Senior Surgeons $3,500, and Assistant Surgeon-Generals $4,000 a year. When quarters are not provided, commutation at the rate of $30, $40 and $50 a month, according to the grade, is allowed.

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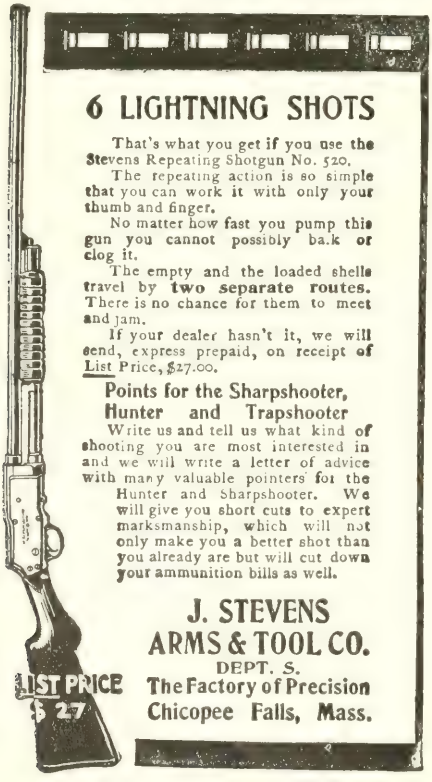

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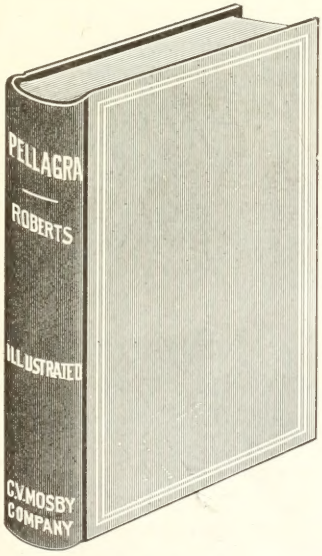

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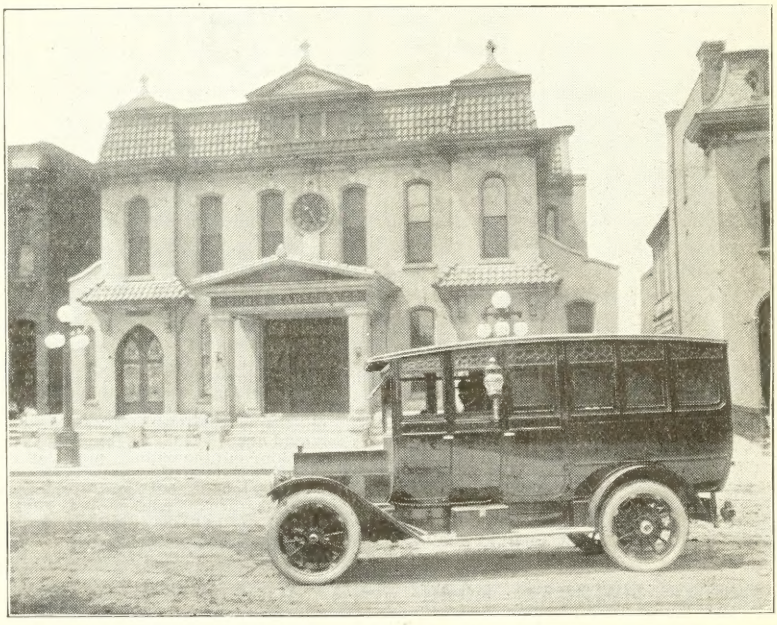

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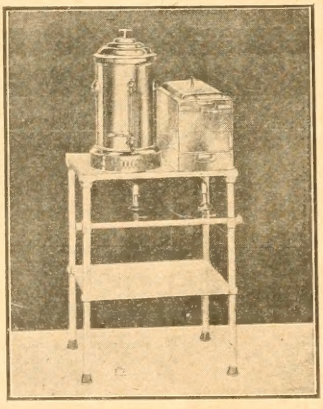

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